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Pivotal questions about the educational program to be offered are posed, and the answers bear directly on the preparation of educational specifications. Recent instructional trends are incorporated, and provision is made for the development of a particular school's philosophy of education regarding program objectives, teaching activities, and learning activities, as a preliminary step in the development of facility requirements. Two important factors which influence facility requirements are (1) modes of learning which include action, reaction and interaction learning, and (2) specialized versus multi-use space for which lecture/demonstration areas, seminar areas and laboratories must be considered. A major portion of the document is in a check list format which allows for consideration of alternatives in developing facility requirements. A bibliography of 89 reference sources offers a more detailed treatment into the various phases of facility planning. A related document is ED 026 537. (CH)

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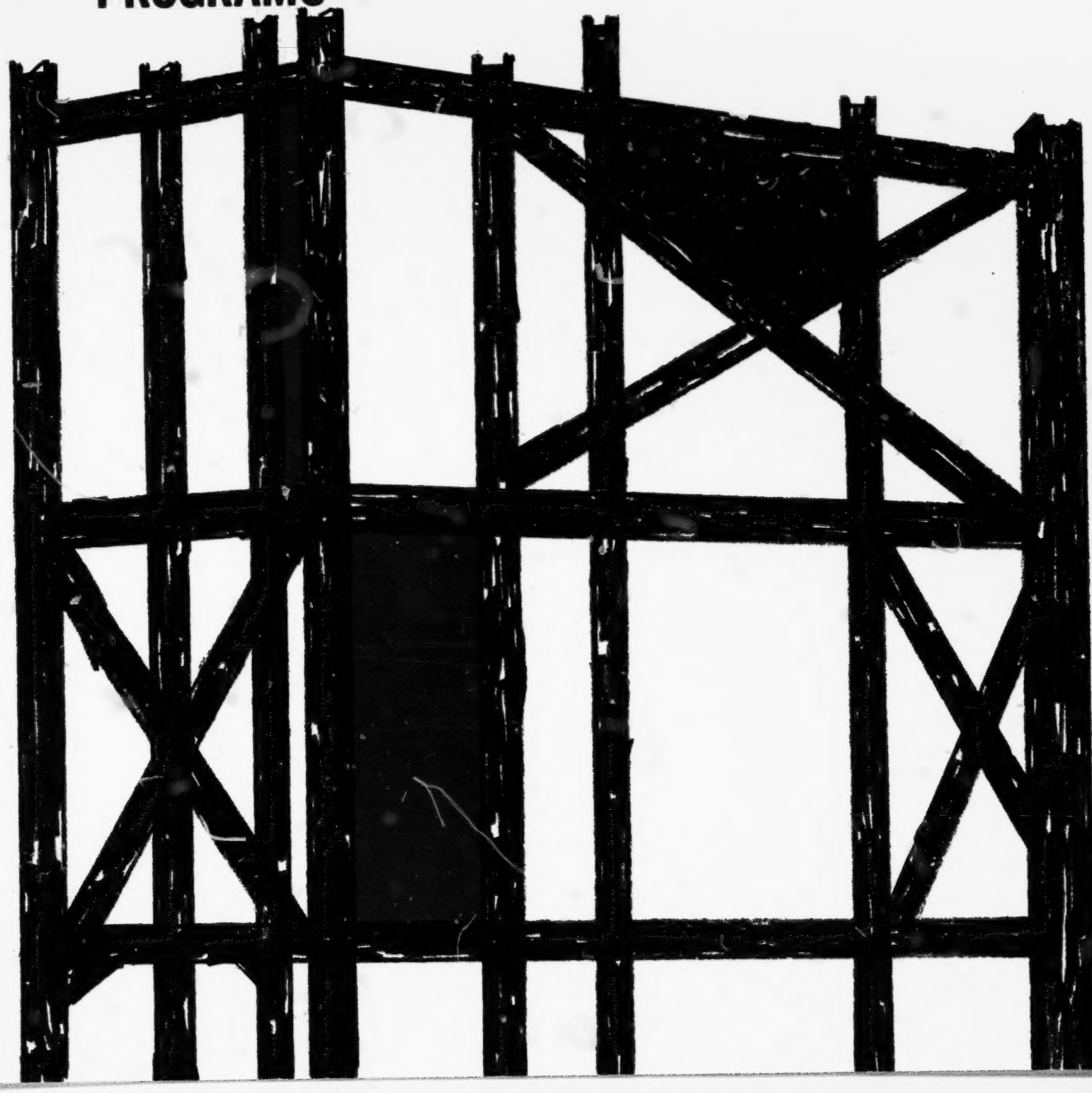
THE CENTER FOR VOCATIONAL
AND TECHNICAL EDUCATION

THE OHIO STATE UNIVERSITY
1900 Kenny Rd., Columbus, Ohio, 43210

RESEARCH 38

(C1)

A GENERAL GUIDE FOR PLANNING FACILITIES FOR OCCUPATIONAL PREPARATION PROGRAMS



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1. To provide continuing reappraisal of the role and function of vocational and technical education in our democratic society;

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4. To conduct research studies directed toward the development of new knowledge and new applications of existing knowledge in vocational and technical education;

5. To upgrade vocational education leadership (state supervisors, teacher educators, research specialists, and others) through an advanced study and inservice education program;

6. To provide a national information retrieval, storage, and dissemination system for vocational and technical education linked with the Educational Resources Information Center located in the U. S. Office of Education.

3a RESEARCH SERIES NO. 38

FINAL REPORT
ON A PROJECT CONDUCTED UNDER
PROJECT NO. 7-0158
GRANT NO. OEG-3-7-000158-2037

A GENERAL GUIDE FOR PLANNING FACILITIES FOR OCCUPATIONAL PREPARATION PROGRAMS

Final Report

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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JUNE 1969

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FOREWORD

One of the most fundamental concerns in planning for vocational and technical education facilities is that of assuring that educational requirements dictate the nature of the facilities. Other concerns include planning a sufficiently adaptable and flexible structure to permit needed modifications and programmatic changes over the lifetime of the building. Experiences have shown that adequate manuals and guide materials can provide substantial assistance in planning educational facilities. This document is a guide for planning facilities for occupational preparation programs. The information recorded in the guide is to be used in the preparation of educational specifications.

The guide lists a series of pivotal questions about the educational program to be offered. The answers to these program questions bear directly on the numbers and kinds of instructional areas needed in the contemplated facilities. After program decisions are recorded, the guide provides for the description of instructional areas needed to meet program requirements. Much of the material is presented in a checklist format which allows for consideration of alternatives in facility planning.

The guide was designed for use by any person or groups of persons responsible for planning occupational education programs. It is anticipated that knowledgeable persons such as occupational education instructors, state supervisors, university school plant planners, and local administrators will find the guide a useful planning tool. The guide can also be used for instructional purposes at universities, colleges, seminars, and institutes.

This guide is one of a series of 15 developed for facility planning by The Center for Vocational and Technical Education. It is a general guide which can be used to plan facilities for a single occupational preparation program, two or more such programs, or an entire school. The other 14 guides in the series were each designed to assist in the planning of instructional spaces for specific occupational preparation programs. A listing of these guides is found on page 5 .

The Center project staff, Richard F. Meckley, Ivan E. Valentine, and Zane McCoy, is grateful to the many individuals and groups whose assistance and suggestions led to the successful conclusion of the project. Special recognition is due M. J. Conrad, head, Administration and Facilities Unit, School of Education, The Ohio State University, and E. J. Morrison, Coordinator of Center Research and Development Projects.

Robert E. Taylor
Director
The Center for Vocational
and Technical Education

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PART I

INTRODUCTION

PURPOSE OF GUIDE

The major purpose of this document is to provide guidance in the systematic planning of facilities to house occupational preparation programs. The information recorded on the following pages will be of value in the writing of educational specifications for secondary, post-secondary, junior and community college occupational preparation facilities.

In addition to its major purpose as a planning document for development of educational specifications, the guide is also designed to assist in the formation of creative solutions to the housing of desired educational programs and to prevent important considerations from being overlooked in the planning process.

ORGANIZATION OF GUIDE

The guide for planning facilities for occupational preparation programs is sequentially subdivided into four principal headings or parts.

Part I (Introduction) is a discussion of the major purposes, underlying assumptions, guiding principles, recent trends, and limitations of the guide.

Part II (The Instructional Program) important information is sought on overall school philosophy and objectives and the number and nature of specific occupational programs to be offered.

Part III (Facilities to be Provided) the actual areas desired to house the programs outlined in Part II are described both quantitatively and qualitatively.

Part IV is a bibliography of reference sources which offer a more detailed treatment into the various phases of facility planning.

UNDERLYING ASSUMPTIONS

Important assumptions were made in the preparation of this planning guide. They were:

- Major educational program decisions have or are being made. Content of instruction has been determined through occupational educational surveys, advisory committees, board of education study, etc. Methods of instruction have been determined by appropriate educational personnel, including local staff members.

- A cooperative and collaborative relationship has been established with knowledgeable local agencies who are aware of economic, political, and social conditions which must be taken into account in short- and long-range educational planning.

- Educational, economic, political, and social planning has revealed the approximate numbers and kinds of students (school-age and adult) to be served by the proposed school. Such information has been provided by enrollment projections, census tract data, student interest studies, etc.

- The information recorded in this document will be used in the preparation of educational specifications for use by an architect(s) in facility design.

- Sufficient funds are or can be made available to support both the provision of facilities and the operation of the desired occupational preparation programs.

GUIDING PRINCIPLES

In planning facilities to house occupational preparation programs, it is suggested that educational program and facility decisions be consistent with the following guiding principles.

- The educational program is the basis for planning space and facilities.

- Space and facilities should be planned to accommodate changes in the educational program.

- The program should be planned to serve the needs of a variety of groups in the community.

- Space and facilities for the program can be extended through the use of community resources.

- Safe and healthful housing must be provided for all students.

- Space and facilities for occupational preparation programs should be considered in context with the total educational program of the institution and the community.

RECENT INSTRUCTIONAL TRENDS

- Expanded programs to reach not only the average and those who are college bound, but also the unusually gifted, the physically handicapped, the mentally retarded, and the culturally disadvantaged are needed and being provided by occupational preparation programs.

- Cooperation among instructors in developing interdisciplinary units or courses is increasing. Cooperative instruction is encouraged and facilitated by the proximity of instructional and work areas where the teachers can plan together and produce instructional materials.

- Mobile equipment and convenient space for storing it is making the same space available for many purposes and resulting in more effective and efficient use of space.

- Mechanical and electronic teaching aids are being utilized to a greater degree by instructors in occupational preparation programs. To some extent, the effective use of such devices depends upon the accessibility and convenience of storage.

LIMITATIONS OF THE GUIDE

Although this guide is designed to assist in the planning of facilities for a single occupational preparation program, two or more such programs, or an entire school, it is of necessity general in nature and fails to provide comprehensive planning alternatives in specific occupational programs.

A partial solution to this problem may be achieved through the use of facility planning guides prepared by The Center for Vocational and Technical Education, The Ohio State University. Guides are available for occupational preparation programs in:

- Auto Mechanics
- Animal Science
- Business and Office Occupations
- Data Processing
- Dental Assistants
- Dental Hygienists
- Dental Lab Technicians
- Electrical Technology
- Home Economics
- Machine Trades
- Medical Assistants
- Medical Secretaries
- Medical X-Ray Technicians
- Metallurgy Technology

To plan facilities for occupational programs not included above, planners should utilize available reference materials and employ the expertise of vocational-technical educators to achieve best results. The format of this buide should provide a vehicle for documenting information gleaned from these sources.

PART II

THE INSTRUCTIONAL PROGRAM

In this section of the guide, important educational program decisions relating to the school's educational philosophy, objectives, and specific occupational preparation programs are recorded.

EDUCATIONAL PHILOSOPHY

A school's philosophy of education provides a framework from which program objectives and teaching and learning activities designed to meet these objectives can be derived. In the final analysis, it is the numbers and kinds of instructional and learning activities to be carried on which should determine facility needs.

Indicate below the degree to which each statement is in agreement with the planned school's philosophy of education by circling the appropriate number. The scale provided for this purpose is as follows: 1 = major emphasis; 2 = some emphasis; 3 = slight emphasis; N = no emphasis.

1 major emphasis
2 some emphasis
3 slight emphasis
N no emphasis

1. Purpose of program

a.	The purpose of the school is the preparation of students for gainful employment.	1 2 3 N
b.	The purpose of the school is the preparation of students for entry into further educational training programs.	1 2 3 N
c.	The purpose of the school is to provide occupational opportunities for disadvantaged students.	1 2 3 N

1 major emphasis
2 some emphasis
3 slight emphasis
N no emphasis

d. The purpose of the school is to provide students with skills for improving and upgrading employment opportunities. 1 2 3 N
e. The purpose of the school is to provide students with academic skills. 1 2 3 N
f. The purpose of the school is to promote social, economic, and cultural understanding. 1 2 3 N
g. The purpose of the school is to provide social services (health, recreation, etc.) to all members of the community. 1 2 3 N
h. Other statements of program purposes which should be included are:
1) _____ 1 2 3 N
2) _____ 1 2 3 N
3) _____ 1 2 3 N
4) _____ 1 2 3 N

2. Students

a. Student admission to the school is based on selective criteria. These criteria include:
1) _____
2) _____
3) _____
4) _____
b. Much emphasis is placed on the learning of manual skills by students. 1 2 3 N
c. Much emphasis is placed on the learning of theory by students. 1 2 3 N
d. Students have freedom of movement and access to learning materials. 1 2 3 N
e. Students are encouraged to act independently. 1 2 3 N
f. Students of all ages and backgrounds are admitted to the school's program 1 2 3 N
g. When appropriate, cooperative work experience for students outside the school is highly desirable. 1 2 3 N
h. Other statements of philosophy in relationship to students which should be included are:
1) _____ 1 2 3 N
2) _____ 1 2 3 N
3) _____ 1 2 3 N
4) _____ 1 2 3 N

1 major emphasis
2 some emphasis
3 slight emphasis
N no emphasis

3. Instruction

a.	The instructional approach is multi-disciplinary. If so, describe. _____ _____ _____	Yes			No
b.	Cooperative or team instruction is preferable to the one-instructor approach.	1	2	3	N
c.	The community is a source of many resources which can supplement instruction in the school.	1	2	3	N
d.	Content and method of instruction are constantly changing in a rapidly changing society.	1	2	3	N
e.	Other statements of philosophy in relation to instruction which should be included are:				
	1) _____	1	2	3	N
	2) _____ _____	1	2	3	N
	3) _____ _____	1	2	3	N
	4) _____ _____	1	2	3	N

EDUCATIONAL OBJECTIVES

Educational objectives are often identified as goals or outcomes of the educational program. An objective should describe a desired educational outcome that is consistent with a school's philosophy.

Objectives are important to both the planner and the architect since they determine the school's program and related activities. They provide important implications which when translated into facilities can both enhance as well as adequately house the desired program. Thus it becomes imperative to clearly establish the program objectives prior to developing educational specifications and subsequent building design.

Indicate below the degree of emphasis which will be placed on the objectives listed by circling the appropriate number. The scale provided for this purpose is as follows: 1 = major emphasis; 2 = some emphasis; 3 = slight emphasis; and N = no emphasis.

1 major emphasis
2 some emphasis
3 slight emphasis
N no emphasis

The school's educational program objectives are:

1. To prepare students for entry into gainful employment. 1 2 3 N

2. To motivate and recruit capable and qualified students to enroll in post-high school. 1 2 3 N

3. To help prepare individuals to be effective citizens by offering appropriate courses of instruction. 1 2 3 N

4. To provide pre-professional educational training for students who plan to enter colleges and universities. 1 2 3 N

5. To provide students with a wide range of co-curricular activities. These activities will include: 1 2 3 N

   a. _____ 1 2 3 N
   b. _____ 1 2 3 N
   c. _____ 1 2 3 N
   d. _____ 1 2 3 N

6. To provide a community school which will be available to members of the community at all times. 1 2 3 N

7. To develop in students the following kinds of specific and measurable knowledges and skills:

   a. _____ 1 2 3 N
   b. _____ 1 2 3 N
   c. _____ 1 2 3 N
   d. _____ 1 2 3 N
   e. _____ 1 2 3 N
   f. _____ 1 2 3 N
   g. _____ 1 2 3 N
   h. _____ 1 2 3 N
   i. _____ 1 2 3 N
   j. _____ 1 2 3 N

8. Other educational program objectives of the school include:

   a. _____ 1 2 3 N
   _____
   b. _____ 1 2 3 N
   _____
   c. _____ 1 2 3 N
   _____

1 major emphasis
2 some emphasis
3 slight emphasis
N no emphasis

d. _____ 1 2 3 N

_____

OCCUPATIONAL PREPARATION PROGRAMS TO BE OFFERED

Forms A and B are provided for recording information on the school's desired educational program. Form A requests general or school-wide information; Form B requests specific information on each occupational preparation program to be offered. Directions and illustrations are provided for each form.

DIRECTIONS FOR COMPLETING FORM A

GENERAL PROGRAM INFORMATION

Item 1
Name of School Being Planned--Enter here the name which is proposed for the school to be planned and constructed.

Item 2
Address--Enter here the street (or route number), the city, and the state where the school is to be located.

Item 3
Projected Maximum Student Enrollments--Enter here the school-wide projected or estimated maximum student enrollments for each of the categories shown.

Item 4
Time Schedules--Enter here the length of the school's daily periods or time modules in minutes; the school's total periods or modules per week; the number of days per week the school will be open for instruction; and the number of weeks per year the school will be open for instruction. Make these entries for each of the categories shown.

SAMPLE FORM A
GENERAL PROGRAM INFORMATION

Name of School Being Planned *Madison Vocational and Technical School*

Address *1234 Main Street*
Madison, Lafayette 98765

PROJECTED MAXIMUM STUDENT ENROLLMENTS				TIME SCHEDULES			
School	Males	Females	Total	Time in Minutes for Each Period or Module	Periods or Modules per Week	Days of Instruction per Week	Weeks of Instruction per Year
Day	*750*	*250*	*1,000*	*40*	*45*	*5*	*36*
Night	*250*	*100*	*350*	*60*	*10*	*6*	*50*
Other	*0*	*0*	*0*	*0*	*0*	*0*	*0*
TOTALS	*1,000*	*350*	*1,350*				

FORM A
GENERAL PROGRAM INFORMATION

Name of School Being Planned _____

_____

Address _____

_____

PROJECTED MAXIMUM STUDENT ENROLLMENTS				TIME SCHEDULES			
School	Males	Females	Total	Time in Minutes for Each Period or Module	Periods or Modules per Week	Days of Instruction per Week	Weeks of Instruction per Year
Day							
Night							
Other							
TOTALS							

DIRECTIONS FOR COMPLETING FORM B

SPECIFIC PROGRAM INFORMATION

Column 1

Names of Occupational Preparation Programs--Enter here the name of each occupational preparation program to be offered (e.g., commercial baking, computer programming, etc.). Make a separate entry for each occupational preparation program.

Column 2

Projected Maximum Enrollments--Enter here, for each occupational preparation program to be offered, the projected maximum enrollment under each of the categories shown.

Column 3

Time Schedules--Enter here, for each of the occupational preparation programs to be offered, the number of periods per week each student will attend classes directly related to the occupational preparation program and in other classes, such as English and mathematics, the number of days per week, and the number of weeks per year the classes will meet for both day and night schools.

SAMPLE FORM B

SPECIFIC PROGRAM INFORMATION

(1) NAMES OF OCCUPATION PREPARATION PROGRAMS	(2) PROJECTED MAXIMUM ENROLLMENTS						(3) TIME SCHEDULES											
							*Occupational Preparation Program Classes						Other Classes					
	MALES			FEMALES			PERIODS, MODULES PER WEEK		DAYS PER WEEK		WEEKS PER YEAR		PERIODS, MODULES PER WEEK		DAYS PER WEEK		WEEKS PER YEAR	
	School		Total	School		Total	School		School		School		School		School		School	
	Day	Night		Day	Night		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1. *Chem. Lab Tech.*[1]	*30*	*0*	*30*	*10*	*0*	*10*	*10*	*0*	*5*	*0*	*36*	*0*	*30*	*0*	*5*	*0*	*36*	*0*
2. *Child Care Aide*	*0*	*0*	*0*	*50*	*10*	*60*	*20*	*10*	*5*	*5*	*36*	*50*	*20*	*0*	*5*	*0*	*36*	*0*
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		

*Note: If students are enrolled in occupational preparation programs which cannot be classified as being offered in either day or night school, describe on the back of this form.

[1]The information recorded for the sample Chemical Laboratory Technology program indicates that 40 students (30 boys and 10 girls) are enrolled in day school only; that each student spends 10 periods or modules per week, 5 days per week, 36 weeks per year in Chemical Lab Technology courses; and that each student spends 30 periods or modules per week, 5 days per week and 36 weeks per year in other classes.

SAMPLE FORM B

FORM B

SPECIFIC PROGRAM INFORMATION

(1) NAMES OF OCCUPATION PREPARATION PROGRAMS	(2) PROJECTED MAXIMUM ENROLLMENTS						(3) TIME SCHEDULES											
							*Occupational Preparation Program Classes						Other Classes					
	MALES			FEMALES			PERIODS, MODULES PER WEEK		DAYS PER WEEK		WEEKS PER YEAR		PERIODS, MODULES PER WEEK		DAYS PER WEEK		WEEKS PER YEAR	
	School		Total	School		Total	School		School		School		School		School		School	
	Day	Night		Day	Night		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		

*Note: If students are enrolled in occupational preparation programs which cannot be classified as being offered in either day or night school, describe on the back of this form.

FORM B

PART III

FACILITY REQUIREMENTS

The numbers and kinds of facilities required to house the occupational preparation programs described in Part II are recorded in this section of the guide.

LEARNING AREA REQUIREMENTS

The number and kind of learning areas required depend largely on two important factors. The first factor relates to the relative time commitments devoted to different methods or modes of student learning in a given occupational preparation program. The second factor relates to the degree of specialized use versus multi-use of instructional areas. These two factors are discussed below.

Modes of learning. Learning can be divided into three rather distinct modes--reaction learning, interaction learning, and action learning.

Reaction learning is characterized by activities which tend to be largely teacher-centered with the central focus on instruction. Student activities include listening, observing and the taking of notes. Group size for reaction learning may vary from one to 50 to 100 or even 1,000 students as the number has little effect on the learning experience if proper technological aids are used. Because student activities are relatively passive, a short time span is normally employed. An example of a reaction learning activity is the showing of a film on surgical techniques to all students enrolled in animal science technology programs.

Interaction learning is characterized by both the teacher and learner actively participating as both listeners and speakers. This mode of learning, of course, must occur in groups. Sociological research, however, suggests these groups should not exceed 15 persons for optimal effectiveness. Interaction learning of all students generally requires a longer time span than reaction learning. An example of interaction learning is a small-group discussion of proper techniques of caring for handicapped children in a child care aide training program.

Action learning is characterized by the individual student learning by doing. Learning occurs on an individual basis; however, students may function in a group setting. In some of the more flexible types of educational programs students are scheduled for action learning entirely on an individual basis. An example of action learning is an individual student learning the concept of Young's Modulus of Elasticity through use of tensile testing machine in a metallurgical laboratory.

Specialized versus multi-use of space. The relative amounts of time to be spent by students in a given occupational program in reaction, interaction, and action learning has definite implications for the number and kind of areas to be provided. These time considerations combined with decisions on the degree of specialization versus multi-use help determine the nature of facilities required. Since most vocational programs have concentrated on action learning experiences, facilities designed for a particular vocational program have seldom provided adequate reaction and interaction facilities because of the limited utilization of such spaces. However, if the learning activities in any vocational program are broken down into the modes of learning, it will be noted that reaction and interaction spaces are the same *regardless of the vocational area.* Therefore, by providing common reaction and interaction spaces for all vocational programs, the most modern technological aids can be justified which, in most cases, will permit lectures, demonstrations and other group reaction learning experiences for groups larger than typically used in ocational education programs. Not only will group reaction learning be improved but more time will become available for the professional staff to work with individuals and small groups in interaction and action learning activities.

Scheduling group reaction and interaction learning experiences into sepcialized facilities permits complete flexibility in the use of the action learning laboratories on an open individualized basis since students would no longer need to be scheduled into the action learning laboratories on a sepcific class basis. This will permit 100 percent room utilization of the action learning laboratories and also permit the introduction of differentiated staff assignments into vocational education.

The open laboratory concept also permits the planned sharing of certain specialized equipment which may be required by two or more vocational programs.

If the decision is made to provide *specialized* and *separate* areas for one or more of the principal methods or modes of learning, then the following areas should be provided.

Lecture/demonstration areas--provided for reaction learning (emphasis is on instruction; student group size can be large; electronic and other teaching aids can be used).

Seminar areas--provided for interaction learning (emphasis is on student interaction; small group size is desirable).

Laboratories--provided for action learning (emphasis is on individual laboratory work; instructor normally assists students individually).

Very often, however, occupational programs call for combination or multi-use areas in which more than one mode of student learning can occur (e.g., combination laboratory and lecture/demonstration area). Decisions on the number and specialized and multi-use areas are recorded on Form C. A sample Form C is included for illustrative purposes. Decisions should be consistent with educational program objectives.

The numbers of various kinds of learning areas are recorded on Form C's for each occupational preparation program to be offered. Forms D, E, and F, which follow, are for the purpose of describing the kinds of lecture/demonstration, seminar, and laboratory areas desired, respectively. A separate Form F should be completed for each laboratory area required.

DIRECTIONS FOR COMPLETING FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

For each occupational preparation program to be housed in the planned new facility, complete a separate Form C as illustrated in the Sample Form C on the next page.

SAMPLE FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program *Veterinary Assistant--Small Animal Hospital*

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With: LEARNING AREAS — Lecture/Demonstration	LEARNING AREAS — Seminar	LEARNING AREAS — Lab (specify)	AUXILIARY AREAS — Instructor Offices (number)	AUXILIARY AREAS — Area Libraries (number)	AUXILIARY AREAS — Rest Rooms (number)	AUXILIARY AREAS — Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*	*2*	*100*	(Yes) No	Yes (No)				*2*	(Yes) No	
		1	*60*	Yes (No)	Yes (No)	*Vet.Sci.*				Yes (No)	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**	*1*	*15*	Yes (No)	Yes (No)	*An. Care*				Yes (No)	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***	*1*	*20*	(Yes) No	Yes (No)	*Vet. Sci.*	*2*	*1*		(Yes) No	
		1	*15*	Yes (No)	(Yes) No	*An. Care*	*1*			(Yes) No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1. *2 Lecture/demonstration areas with a student capacity of 100 each and 2 rest rooms and storage areas*
2. *1 Veterinary science laboratory area (20-student capacity) and 1 lecture/demon. area (60-student cap.)*
3. *1 Animal care laboratory area (15-student capacity) and 1 seminar area (15-student capacity)*
4. *Storage areas required for both laboratories*
5. *2 Instructors' offices adjacent or near vet. sci. area; 1 instructor's office near animal care lab.*
6. *1 Area library for veterinary science laboratory*

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.

**Emphasis on student interaction in small seminar groups; small group size desirable.

***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With								
				LEARNING AREAS			AUXILIARY AREAS					
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____
2._____
3._____
4._____
5._____
6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.
**Emphasis on student interaction in small seminar groups; small group size desirable.
***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With								
				LEARNING AREAS			AUXILIARY AREAS					
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____

2._____

3._____

4._____

5._____

6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.

**Emphasis on student interaction in small seminar groups; small group size desirable.

***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With								
				LEARNING AREAS			AUXILIARY AREAS					
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____
2._____
3._____
4._____
5._____
6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.
**Emphasis on student interaction in small seminar groups; small group size desirable.
***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With								
				LEARNING AREAS			AUXILIARY AREAS					
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____
2._____
3._____
4._____
5._____
6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.
**Emphasis on student interaction in small seminar groups; small group size desirable.
***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With								
				LEARNING AREAS			AUXILIARY AREAS					
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____
2._____
3._____
4._____
5._____
6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.
**Emphasis on student interaction in small seminar groups; small group size desirable.
***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With							
				LEARNING AREAS			AUXILIARY AREAS				
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____

2._____

3._____

4._____

5._____

6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.

**Emphasis on student interaction in small seminar groups; small group size desirable.

***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With								
				LEARNING AREAS			AUXILIARY AREAS					
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____
2._____
3._____
4._____
5._____
6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.
**Emphasis on student interaction in small seminar groups; small group size desirable.
***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With								
				LEARNING AREAS			AUXILIARY AREAS					
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____
2._____
3._____
4._____
5._____
6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.
**Emphasis on student interaction in small seminar groups; small group size desirable.
***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With: LEARNING AREAS — Lecture/Demonstration	LEARNING AREAS — Seminar	LEARNING AREAS — Lab (specify)	AUXILIARY AREAS — Instructor Offices (number)	AUXILIARY AREAS — Area Libraries (number)	AUXILIARY AREAS — Rest Rooms (number)	AUXILIARY AREAS — Storage Area	AUXILIARY AREAS — Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____

2._____

3._____

4._____

5._____

6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.

**Emphasis on student interaction in small seminar groups; small group size desirable.

***Emphasis on individual student action; instructor normally assists students individually.

FORM C

LEARNING AND AUXILIARY SPACE REQUIREMENTS

Occupational Preparation Program_____

	Instructional Areas Required	Number Required	Student Capacity Each	In Combination With								
				LEARNING AREAS			AUXILIARY AREAS					
				Lecture/ Demonstration	Seminar	Lab (specify)	Instructor Offices (number)	Area Libraries (number)	Rest Rooms (number)	Storage Area	Other
A	LECTURE/ DEMONSTRATION AREAS REQUIRED*			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
B	SEMINAR AREAS REQUIRED**			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
C	LABORATORY AREAS REQUIRED***			Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	
				Yes No	Yes No					Yes No	

D Summary of Area Requirements

1._____

2._____

3._____

4._____

5._____

6._____

*Emphasis on instruction and student reaction; student groups size can be large; electronic and other teaching aids may be used.

**Emphasis on student interaction in small seminar groups; small group size desirable.

***Emphasis on individual student action; instructor normally assists students individually.

FORM D

DESCRIPTION OF LECTURE/DEMONSTRATION AREAS TO BE USED PRINCIPALLY FOR REACTION LEARNING

1 major emphasis
2 some emphasis
3 slight emphasis
N no emphasis

1. Total number of lecture/demonstration areas required for the desired programs (see all Form C's).* _____

2. Student and instructor activities in these spaces. Indicate the extent to which each of the activities listed below will occur.

a. Listening to lectures	1	2	3	N
b. Observing demonstrations	1	2	3	N
c. Taking notes	1	2	3	N
d. Viewing films, slides, overhead projections, etc.	1	2	3	N
e. _____	1	2	3	N
f. _____	1	2	3	N

3. Spatial relationships. Indicate the extent to which the lecture/demonstration areas should be accessible to the:

a. Learning materials center	1	2	3	N
b. Building entrance	1	2	3	N
c. Delivery area	1	2	3	N
d. Other learning areas				
1) _____	1	2	3	N
2) _____	1	2	3	N
3) _____	1	2	3	N
e. Other building areas				
1) _____	1	2	3	N
2) _____	1	2	3	N
3) _____	1	2	3	N

4. Furniture and equipment

a. Student seating			
1) Individual desks and chairs	P	A	NA**
a) Number of desks and chairs required	_____		
b) Provision for storage	Yes		No
2) Permanent-type desk	P	A	NA

*The planner should bear in mind that lecture/demonstration areas can be shared by students in all occupational preparation programs.

**Code: P = Preferred; A = Acceptable; NA = Not Acceptable. This scale is used frequently through this part of the guide.

a) Number required
b) Provision for storage — Yes / No

3) Desk and chair combination — P / A / NA
a) Number required
b) Provision for storage — Yes / No

4) Tables and chairs — P / A / NA
a) Number of tables required
b) Number of chairs required
c) Provisions for storage — Yes / No

5) Auditorium-type seating — P / A / NA
a) Number of seats required
b) Permanent type — P / A / NA
c) Portable type — P / A / NA
Provision for storage — Yes / No

b. Stage — Yes / No
1) Permanent type — P / A / NA
2) Portable type — P / A / NA
The approximate area in square feet desired
3) Adjacent preparation area — Yes / No

c. Sound amplifying system — P / A / NA

d. Controls for regulating light intensity — P / A / NA

e. Lectern — P / A / NA
1) Permanent type — P / A / NA
2) Portable type — P / A / NA
Provision for storage — Yes / No
3) Provision for electronic tapes — Yes / No

f. Projection screen
1) Built-in type — P / A / NA
2) Portable type — P / A / NA
3) Approximate dimensions
Provision for storage — Yes / No
4) Provision for rear screen projection — Yes / No

g. Other equipment required for lecture/ demonstration areas are:
1) _____
2) _____
3) _____
4) _____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of the lecture/demonstration areas.

_____
_____
_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations

important to the planning of the lecture/demonstration areas.

_____
_____
_____
_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of the lecture/demonstration areas.

_____
_____
_____
_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special consideration important to the planning of the lecture/demonstration areas.

_____
_____
_____
_____

e. *Safety.* In planning a school building, safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of the lecture/demonstration areas.

_____
_____
_____
_____

6. Vertical instructional surface

a. Chalkboard	Yes	No
1) Wall-mounted	P A	NA
Number of lineal feet	_____	
2) Portable	P A	NA
Provision for storage	Yes	No
b. Tack board	Yes	No
Number of lineal feet	_____	
c. Pegboard	Yes	No
Number lineal feet	_____	

7. Special utility services required

a. Electricity		
1) Projection equipment	Yes	No
2) Sound amplifying equipment	Yes	No
3) Electrical needs for other equipment		
specify		
a) _____		
b) _____		

c) _____
d) _____

4) Provision for darkening area Yes No

b. Other utility needs for the lecture/demonstration areas
1) _____
2) _____
3) _____
4) _____

8. The minimum space requirement in square feet for each lecture/demonstration area (optional) _____. (The planner should be aware of any state or local regulation or recommendations concerning floor space requirements.)

9. Other important factors to be considered in the planning of the lecture/demonstration areas are:

FORM E

DESCRIPTION OF SEMINAR AREAS
TO BE USED PRINCIPALLY FOR INTERACTION LEARNING

1 major emphasis
2 some emphasis
3 slight emphasis
N no emphasis

1. The number of seminar areas required for the desired program (see all Form C's).* _____

2. Student and instructor activities in these areas. Indicate the extent to which each of the activities listed below will occur.

a. Small group discussion	1	2	3	N
b. Viewing films, slides, overhead projections, etc.	1	2	3	N
c. Demonstrating	1	2	3	N
d. Reporting	1	2	3	N
e. Working on projects	1	2	3	N
f. _____	1	2	3	N
g. _____	1	2	3	N

3. Spatial relationships. Indicate the extent to which the seminar areas should be accessible to the:

a. Learning materials center	1	2	3	N
b. Building entrance	1	2	3	N
c. Delivery area	1	2	3	N
d. Other learning areas				
1) _____	1	2	3	N
2) _____	1	2	3	N
3) _____	1	2	3	N
e. Other building areas				
1) _____	1	2	3	N
2) _____	1	2	3	N
3) _____	1	2	3	N

4. Furniture and equipment

a. Seminar table	Yes			No
1) Number required	_____			
2) Seating for how many persons	_____			
3) Permanent type	P	A		NA
4) Portable type	P	A		NA
Provision for storage	Yes			No
b. Chairs				
1) Number required	_____			
2) Straight-back type	P	A		NA

*The planner should bear in mind that seminar areas can be shared by students in all occupational preparation programs.

	P	A	NA
3) Folding type	Yes		No
4) Provision for storage			

c. Other equipment required for seminar spaces are:
   1) _____
   2) _____
   3) _____

5. Environmental factors

   a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special considerations important to the planning of seminar areas.

   _____
   _____
   _____

   b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of the seminar areas.

   _____
   _____
   _____

   c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of the seminar areas.

   _____
   _____
   _____

   d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound system. Indicate any special considerations important to the planning of the seminar areas.

   _____
   _____
   _____

   e. *Safety.* In planning a school building, safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of the seminar areas.

   _____
   _____
   _____
   _____

6. Vertical instructional surfaces

a. Chalkboard		Yes	No
1) Wall-mounted		P A	NA
2) Number of lineal feet			
3) Portable		P A	NA
Provision for storage		Yes	No
b. Tack board		Yes	No
Number of lineal feet			
c. Pegboard		Yes	No
Number of lineal feet			

7. Special utility services required

a. Electricity		
1) Projection equipment	Yes	No
2) Sound amplifying equipment	Yes	No
3) Electrical needs for other equipment *specify*		
4) Provision for darkening area	Yes	No

b. Other utility needs for the seminar spaces
   1) _____
   2) _____
   3) _____
   4) _____

8. Minimum space requirement in square feet for each seminar area (optional) _____.
(The planner should be aware of any state or local regulations or recommendations concerning floor space requirements.)

9. Other important factors to be considered in the planning of the seminar areas are:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

FORM F-1

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
      _____
   b. _____
      _____
   c. _____
      _____
   d. _____
      _____
   e. _____
      _____

F-1

f. _____

g. _____

h. _____

i. _____

j. _____

k. _____

l. _____

m. _____

n. _____

o. _____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____

_____

_____

_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____

_____

_____

_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____

_____

_____

_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

6. Vertical instructional surfaces

a. Chalkboard — Yes / No
   1) Wall-mounted — P A NA
      Number of lineal feet
   2) Portable — P A NA
      (a) Number of lineal feet
      (b) Provision for storage — Yes / No
b. Tack board — Yes / No
   Number of lineal feet
c. Pegboard — Yes / No
   Number of lineal feet

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area. ____sq.ft.
b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.
   Areas:
   1) _____ ____sq.ft.
   2) _____ ____sq.ft.
   3) _____ ____sq.ft.
   4) _____ ____sq.ft.
   5) _____ ____sq.ft.
   6) _____ ____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

FORM F-2

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
      _____
   b. _____
      _____
   c. _____
      _____
   d. _____
      _____
   e. _____
      _____
      _____

f. _____
_____
g. _____
_____
h. _____
_____
i. _____
_____
j. _____
_____
k. _____
_____
l. _____
_____
m. _____
_____
n. _____
_____
o. _____
_____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____
_____
_____
_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____
_____
_____
_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

6. Vertical instructional surfaces

a. Chalkboard	Yes	No
1) Wall-mounted	P A	NA
Number of lineal feet		
2) Portable	P A	NA
(a) Number of lineal feet		
(b) Provision for storage	Yes	No
b. Tack board	Yes	No
Number of lineal feet		
c. Pegboard	Yes	No
Number of lineal feet		

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area. ____sq.ft.

b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.
Areas:

1) _____ ____sq.ft.
2) _____ ____sq.ft.
3) _____ ____sq.ft.
4) _____ ____sq.ft.
5) _____ ____sq.ft.
6) _____ ____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

FORM F-3

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
   _____
   b. _____
   _____
   c. _____
   _____
   d. _____
   _____
   e. _____
   _____

F-3

f. _____
_____
g. _____
h. _____
i. _____
j. _____
k. _____
l. _____
m. _____
n. _____
o. _____
_____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style or architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____
_____
_____
_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____
_____
_____
_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

_____
_____
_____
_____

6. Vertical instructional surfaces

a.	Chalkboard	Yes		No
	1) Wall-mounted	P	A	NA
	Number of lineal feet			
	2) Portable	P	A	NA
	(a) Number of lineal feet			
	(b) Provision for storage	Yes		No
b.	Tack board	Yes		No
	Number of lineal feet			
c.	Pegboard	Yes		No
	Number of lineal feet			

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area. ____sq.ft.

b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.

Areas:

1) _____ ____sq.ft.
2) _____ ____sq.ft.
3) _____ ____sq.ft.
4) _____ ____sq.ft.
5) _____ ____sq.ft.
6) _____ ____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

_____
_____
_____
_____
_____
_____
_____
_____
_____

FORM F-4

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
      _____
   b. _____
      _____
   c. _____
      _____
   d. _____
      _____
   e. _____
      _____

f. _____

g. _____

h. _____

i. _____

j. _____

k. _____

l. _____

m. _____

n. _____

o. _____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____

_____

_____

_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____

_____

_____

_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____

_____

_____

_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

6. Vertical instructional surfaces

a. Chalkboard	Yes P A	No NA
1) Wall-mounted		
Number of lineal feet	P A	NA
2) Portable		
(a) Number of lineal feet	Yes	No
(b) Provision for storage	Yes	No
b. Tack board		
Number of lineal feet	Yes	No
c. Pegboard		
Number of lineal feet		

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area.	____sq.ft.
b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.	
Areas:	
1) _____	____sq.ft.
2) _____	____sq.ft.
3) _____	____sq.ft.
4) _____	____sq.ft.
5) _____	____sq.ft.
6) _____	____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

FORM F-5

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
      _____
   b. _____
      _____
   c. _____
      _____
   d. _____
      _____
   e. _____
      _____

f. _____
_____
g. _____
_____
h. _____
_____
i. _____
_____
j. _____
_____
k. _____
_____
l. _____
_____
m. _____
_____
n. _____
_____
o. _____
_____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____
_____
_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____
_____
_____
_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

_____
_____
_____
_____

6. Vertical instructional surfaces

a. Chalkboard	Yes	No
1) Wall-mounted	P A	NA
Number of lineal feet		_____
2) Portable	P A	NA
(a) Number of lineal feet		_____
(b) Provision for storage	Yes	No
b. Tack board	Yes	No
Number of lineal feet		_____
c. Pegboard	Yes	No
Number of lineal feet		_____

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area.	____sq.ft.
b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.	
Areas:	
1) _____	____sq.ft.
2) _____	____sq.ft.
3) _____	____sq.ft.
4) _____	____sq.ft.
5) _____	____sq.ft.
6) _____	____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

_____
_____
_____
_____
_____
_____
_____
_____
_____

FORM F-6

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
      _____
   b. _____
      _____
   c. _____
      _____
   d. _____
      _____
   e. _____
      _____

f. _____
_____
g. _____
_____
h. _____
_____
i. _____
_____
j. _____
_____
k. _____
_____
l. _____
_____
m. _____
_____
n. _____
_____
o. _____
_____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____
_____
_____
_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____
_____
_____
_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

_____
_____
_____
_____

6. Vertical instructional surfaces

a. Chalkboard	Yes	No
1) Wall-mounted	P A	NA
Number of lineal feet		
2) Portable	P A	NA
(a) Number of lineal feet		
(b) Provision for storage	Yes	No
b. Tack board	Yes	No
Number of lineal feet		
c. Pegboard	Yes	No
Number of lineal feet		

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area.	____sq.ft.
b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.	
Areas:	
1) _____	____sq.ft.
2) _____	____sq.ft.
3) _____	____sq.ft.
4) _____	____sq.ft.
5) _____	____sq.ft.
6) _____	____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

_____
_____
_____
_____
_____
_____
_____
_____
_____

FORM F-7

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
   _____
   b. _____
   _____
   c. _____
   _____
   d. _____
   _____
   e. _____
   _____

f. _____
_____

g. _____
_____

h. _____
_____

i. _____
_____

j. _____
_____

k. _____
_____

l. _____
_____

m. _____
_____

n. _____
_____

o. _____
_____
_____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____
_____
_____
_____
_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____
_____
_____
_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

6. Vertical instructional surfaces

a. Chalkboard — Yes P A NA / No
   1) Wall-mounted — P A NA
      Number of lineal feet
   2) Portable — Yes / No
      (a) Number of lineal feet
      (b) Provision for storage — Yes / No
b. Tack board — Yes / No
   Number of lineal feet
c. Pegboard — Yes / No
   Number of lineal feet

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area. ____sq.ft.
b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.
   Areas:
   1) _____ ____sq.ft.
   2) _____ ____sq.ft.
   3) _____ ____sq.ft.
   4) _____ ____sq.ft.
   5) _____ ____sq.ft.
   6) _____ ____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

FORM F-8

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
   _____
   b. _____
   _____
   c. _____
   _____
   d. _____
   _____
   e. _____
   _____

f. _____
_____
g. _____
_____
h. _____
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i. _____
_____
j. _____
_____
k. _____
_____
l. _____
_____
m. _____
_____
n. _____
_____
o. _____
_____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____
_____
_____
_____
_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____
_____
_____
_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

_____
_____
_____
_____

6. Vertical instructional surfaces

a. Chalkboard	Yes	No
1) Wall-mounted	P A	NA
Number of lineal feet		
2) Portable	P A	NA
(a) Number of lineal feet		
(b) Provision for storage	Yes	No
b. Tack board	Yes	No
Number of lineal feet		
c. Pegboard	Yes	No
Number of lineal feet		

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area.	____sq.ft.
b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.	
Areas:	
1) _____	____sq.ft.
2) _____	____sq.ft.
3) _____	____sq.ft.
4) _____	____sq.ft.
5) _____	____sq.ft.
6) _____	____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

_____
_____
_____
_____
_____
_____
_____
_____
_____

FORM F-9

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
   _____
   b. _____
   _____
   c. _____
   _____
   d. _____
   _____
   e. _____
   _____
   _____

f. _____
_____

g. _____
_____

h. _____
_____

i. _____
_____

j. _____
_____

k. _____
_____

l. _____
_____

m. _____
_____

n. _____
_____

o. _____
_____
_____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____
_____
_____
_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____
_____
_____
_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

_____
_____
_____
_____

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

_____
_____
_____
_____

6. Vertical instructional surfaces

a. Chalkboard	Yes	No
1) Wall-mounted	P A	NA
Number of lineal feet		
2) Portable	P A	NA
(a) Number of lineal feet		
(b) Provision for storage	Yes	No
b. Tack board	Yes	No
Number of lineal feet		
c. Pegboard	Yes	No
Number of lineal feet		

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area. ____sq.ft.

b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.
Areas:

1) _____ ____sq.ft.
2) _____ ____sq.ft.
3) _____ ____sq.ft.
4) _____ ____sq.ft.
5) _____ ____sq.ft.
6) _____ ____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

_____
_____
_____
_____
_____
_____
_____
_____
_____

FORM F-10

DESCRIPTION OF _____ LABORATORY AREAS
TO BE USED PRINCIPALLY FOR ACTION LEARNING

1. Student capacity required _____

2. Student and teacher activities within this laboratory area

   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____
   j. _____

3. Spatial relationships desired

   a. Areas within the laboratory areas (e.g., heat treating area adjacent to mechanical testing area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

   b. Laboratory areas to other building areas (e.g., metallurgy laboratory adjacent to delivery area)
      1) _____
      2) _____
      3) _____
      4) _____
      5) _____
      6) _____

4. Furniture and equipment required (give quantities, dimensions, specifications, portable or permanent type, utility requirements, etc.)

   a. _____
      _____
   b. _____
      _____
   c. _____
      _____
   d. _____
      _____
   e. _____
      _____
      _____

f. _____

g. _____

h. _____

i. _____

j. _____

k. _____

l. _____

m. _____

n. _____

o. _____

5. Environmental factors

a. *Aesthetic.* Factors to be considered in the aesthetic domain are colors, light, style of architecture, design and the like. Indicate any special aesthetic considerations important to the planning of this laboratory area.

_____

_____

_____

_____

_____

b. *Aerial.* Factors to be considered in this category include air temperature, radiant temperature, relative humidity, and ventilation. Indicate any special considerations important to the planning of this laboratory area.

_____

_____

_____

_____

c. *Visual.* A properly controlled and balanced visual environment is important. The visual environment affects such things as accuracy in perception, attention to tasks, and speed of performance. Indicate any special factors which should be taken into account in planning the visual environment of this laboratory area.

_____

_____

_____

_____

d. *Sonic.* Factors to be considered in this category include such things as acoustical requirements and sound systems. Indicate any special considerations important to the planning of this laboratory area.

e. *Safety*. In planning a school building safety for students and instructors is of prime concern. Indicate any special safety considerations which have implications for design of this laboratory area.

6. Vertical instructional surfaces

a. Chalkboard	Yes	No
1) Wall-mounted	P A	NA
Number of lineal feet		
2) Portable	P A	NA
(a) Number of lineal feet		
(b) Provision for storage	Yes	No
b. Tack board	Yes	No
Number of lineal feet		
c. Pegboard	Yes	No
Number of lineal feet		

7. Minimum floor areas in square feet (optional)

a. Floor area in square feet desired for this entire laboratory area. ____sq.ft.

b. If distinct space divisions are desired according to function, give minimum floor areas for the various instructional areas within the total laboratory area.
Areas:

1) _____ ____sq.ft.
2) _____ ____sq.ft.
3) _____ ____sq.ft.
4) _____ ____sq.ft.
5) _____ ____sq.ft.
6) _____ ____sq.ft.

8. Other important factors to be considered in planning this laboratory space are:

GENERAL FACILITY REQUIREMENTS

Part A dealt with learning area requirements for the planned occupational preparation programs. This section is for recording decision on *general* or *school-wide* facility requirements. Form G, which follows, requests basic information on these facilities. Form H is provided for any additional considerations with respect to each of the general facilities.

SAMPLE FORM G

GENERAL FACILITY REQUIREMENTS

Facility	Number Required	Student Capacity	Specialization		Spatial Relations		Student & Teacher Activities	Equipment & Utilities Required	Environmental Requirements
			Independent Unit	Combined With	Adjacent Areas	Convenient Access To			
Gym	*1*	*Classes 60 Seating 100*	Yes (No)	*Cafeteria*	*Locker rooms & gym floor serving counter & tables*	*Building entrance kitchen, delivery & pkg. areas*	*Phys. ed., eating meals, assembly*	*Tile floor, removable tables, baseball equipment loudspeaker*	*Optimal light, acoustical, air conditioning*
Administrative Offices			Yes No						
Auditorium			Yes No						
Cafeteria			Yes No						
Gym			Yes No						
Learning Material Center			Yes No						

FORM G

GENERAL FACILITY REQUIREMENTS

Facility	Number Required	Student Capacity	Specialization		Spatial Relations		Student & Teacher Activities	Equipment & Utilities Required	Environmental Requirements
			Independent Unit	Combined With	Adjacent Areas	Convenient Access To			
			Yes No						
			Yes No						
			Yes No						
			Yes No						
			Yes No						
			Yes No						

FORM G

FORM G

GENERAL FACILITY REQUIREMENTS

Facility	Number Required	Student Capacity	Specialization		Spatial Relations		Student & Teacher Activities	Equipment & Utilities Required	Environmental Requirements
			Independent Unit	Combined With	Adjacent Areas	Convenient Access To			
			Yes No						
			Yes No						
			Yes No						
			Yes No						
			Yes No						
			Yes No						

FORM G

FORM G

GENERAL FACILITY REQUIREMENTS

Facility	Number Required	Student Capacity	Specialization		Spatial Relations		Student & Teacher Activities	Equipment & Utilities Required	Environmental Requirements
			Independent Unit	Combined With	Adjacent Areas	Convenient Access To			
			Yes No						
			Yes No						
			Yes No						
			Yes No						
			Yes No						
			Yes No						

FORM H

ADDITIONAL CONSIDERATIONS

GENERAL FACILITY REQUIREMENTS

This form is provided in the event there is a need to record information in addition to that which appears on Form G for any or all of the general facilities required.

GENERAL FACILITY	ADDITIONAL CONSIDERATIONS

FORM I

SUMMARY OF TOTAL FACILITY REQUIREMENTS

Learning spaces required (see Form C)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

General facilities required (see Form G)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

H

I

EDUCATIONAL SPECIFICATIONS

As stated in Part I, this guide is a document for recording information to be used in the writing of educational specifications. Educational specifications provide the architect with a description of the educational program along with desired spatial needs and relationships to adequately house the program. It is the architect's responsibility to design a building which meets educational specifications.

Although the responsibility for preparation of educational specifications rests with educators who have planned occupational preparation programs in accordance with procedures in this guide, very often competent private and university school plant planners are called upon for assistance.

An outline of the contents normally included in educational facilities is given below.

OUTLINE OF EDUCATIONAL SPECIFICATIONS*

GENERAL

- Philosophy and objectives
- Community characteristics
- Enrollment
- Community use
- Site and development
- General building design
- General interior arrangement
- Multiple use
- Funds allocated
- Future expansion
- Legal aspects

LIST OF FACILITIES TO BE PROVIDED

Summary of facilities for easy reference

DETAILED ROOM DESCRIPTIONS

- General space description
- Activities for each space
- Location and traffic circulation
- Furniture and equipment
- Storage
- Audio-visual requirements
- Special utility requirements
- Other special considerations

MISCELLANEOUS REQUIREMENTS

This section should call attention to miscellaneous building features which are not covered in the detailed room description.

*Source: M. J. Conrad, *Four Steps to Better Schools*, Administration and Facilities Unit, College of Education, The Ohio State University and The Ohio School Boards Association.

PART IV

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